

AMENDMENTS TO THE DRAWINGS:

Attached are replacement Figures 1-13, addressing the issues raised in the Official Action mailed on April 9, 2003 and the attached Notice of Draftsperson's Patent Drawing Review (Form PTO 948). Figure 1 has been corrected to address the Examiner's concerns with regard to compliance with the sequence rules. In particular, the requisite sequence identifiers have been inserted at appropriate locations in Figure 1. Figures 1-13 have also been corrected to overcome the objections set forth in the above-noted Form PTO 948.

REMARKS

Entry of the foregoing, reexamination and further and favorable reconsideration of the subject application in light of the following remarks, pursuant to and consistent with 37 C.F.R. § 1.116, are respectfully requested.

I. CLAIM STATUS & AMENDMENTS

As correctly stated in the Official Action Summary, claims 1-9, 12-19, 21, and 22 were pending in this application when last examined.

By the foregoing amendment, claims 15-19 have been canceled without prejudice or disclaimer to the subject matter disclosed therein. Applicants reserve the right to file a continuation or division application on any canceled subject matter. Claims 1, 6, and 21 have also been amended. Support for the amendment to claim 1 can be found in the Specification, at least, at page 12, line 5, page 14, line 30 to page 15, line 4, and in original claim 1. Support for the amendment to claim 6 can be found at least in original claim 6. Support for the amendment to claim 21 can be found in the Specification, at least, at page 15, lines 23-30 and in original claim 21. Additionally, new claims 23 and 24 have been added by the present amendment. Support for new claim 23 can be found in the Specification, at least, at page 14, lines 18-24. Support for new claim 24 can be found in the Specification, at least, at page 15, lines 23-30. No new matter will be added upon entry of this amendment.

Upon entry of the present amendment, claims 1-9, 12-14, and 21-24 will be pending in this application.

II. FORMAL MATTERS

A. Information Disclosure Statements

Applicants acknowledge receipt of Examiner-initialed copies of the Information Disclosure Statements ("IDS") filed November 15, 2002 and November 17, 2000. However, a further IDS was submitted on June 18, 2003, providing a copy of U.S. Patent No. 6,541,226. Accordingly, Applicants respectfully request that the Examiner consider this recent IDS and return an Examiner-initialed copy to the undersigned.

B. Drawings

The drawings have been objected to by the Draftsperson under 37 C.F.R. §§ 1.84 or 1.152. See Form PTO 948.

Applicants submit, concurrently herewith as replacement sheets, corrected drawings. In view of this submission, Applicants respectfully request withdrawal of this objection.

C. Rejections & Objections Withdrawn

Applicants acknowledge the Examiner's withdrawal of the statutory double patenting rejection of claim 1 under 35 U.S.C. § 101 and the non-statutory obvious-type double patenting rejection of claims 2-9. See April 9, 2003 Official Action, page 2.

D. Sequence Rules

The Specification is objected for failing to comply with the requirements for nucleotide and/or amino acid sequences set forth in 37 C.F.R. §§ 1.821-1.825. See April 9, 2003 Official Action, page 3. According to the Examiner, although Applicant responded to the sequence requirements set forth in the Official Action mailed on February 21, 2001, the drawings contain sequences without referring to the corresponding SEQ ID NOS. The Examiner therefore required correction to the drawings.

The corrected drawings, submitted concurrently herewith as replacement sheets, include reference to the corresponding SEQ ID NOS. Accordingly, Applicants respectfully request withdrawal of this objection.

III. REJECTION UNDER 35 U.S.C. § 102 (NEW REJECTION)

Claims 1-9, 12-19, 21, and 22 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Fujiwara et al., NUCLEIC ACIDS RESEARCH, 26(24):5728-33 (1998) (hereinafter "Fujiwara A") or Fujiwara et al., NUCLEIC ACIDS RESEARCH, 26(24):5734-37 (1998) (hereinafter "Fujiwara B"). See April 9, 2003 Official Action, pages 2-3.

Applicants respectfully traverse this rejection. Applicants submit that the cited art references fail to anticipate the claimed invention because the references fail to teach each and every element of the claimed invention.

To anticipate a claim, a single prior art reference must teach, either expressly or inherently, each and every element of the claimed invention. See M.P.E.P. § 2131;

Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

In this case, Fujiwara A and Fujiwara B disclose a method for ligating a double-stranded (hereinafter "ds") DNA and another ds DNA having a single-stranded (hereinafter "ss") DNA end using a homologous protein. The ligation in Fujiwara is maintained (stabilized) by the formation of a covalent bond between DNA ends that were reacted with the homologous protein using DNA ligase.

By contrast, the methodology of the presently claimed invention differs fundamentally from the teachings of Fujiwara A and B in that the ligation of the claimed invention is maintained (stabilized) without using DNA ligase. It is noted that new claims 23 and 24 specifically establish that the method of ligation takes place in the absence of DNA ligase and resulting in a ds DNA having no gaps.

Fujiwara A and B also require the use of a Taq DNA polymerase to convert the three stranded DNA into a ds DNA structure. The instantly claimed invention, on the other hand, does not require the use a Taq DNA polymerase. Instead, the instantly claimed invention achieves this result by introducing the three stranded DNA complex into cells (*e.g.*, *E. coli.*) and replicating it therein.

Applicants note that the presently claimed invention recites "completing the ligation by converting the three-stranded structure into a ds structure by inserting the DNA complex comprising the three-stranded structure into cells and replicating it therein."

See claim 1 (emphasis added). Applicants respectfully submit that Fujiwara A and B do not disclose this aspect of the claimed invention, and thus, cannot anticipate the claimed invention.

Moreover, the above quoted portion of claim 1 is unique to the claimed invention in that it converts the three-stranded DNA structure into a ds DNA structure without nicks and gaps. This unique property permits the instant invention to not require the extra complicated procedures needed in the prior art to perform a ligation reaction with DNA ligase. By contrast, the methodology of Fujiwara A and B results in ligated ds DNA that contains nicks and gaps. Hence, the methodology of Fujiwara A and B requires the use of a DNA ligase. Thus, Applicants respectfully submit that this unique feature of the instantly claimed invention is neither disclosed nor suggested by the Fujiwara A and B references.

Furthermore, Applicants note that claim 21 has been amended to recite the "kit consisting essentially of" the components listed in (a) through (d). Notably this list excludes a DNA ligase, a reactant which is essential to the methods of Fujiwara A and B.

As can be seen from the discussion above, the teachings in Fujiwara A and B certainly differ from the presently claimed invention. Since the Fujiwara A and B references fail to teach or suggest each and every element of the claimed invention, these references do not anticipate the claimed invention. Therefore, Applicants respectfully request withdrawal of this rejection.

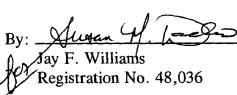
CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is respectfully requested and such action is earnestly solicited.

In the event that there are any questions concerning this amendment or the application in general, the Examiner is respectfully requested to telephone the undersigned so that prosecution of the application may be expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:  Reg. No. 48,373
Jay F. Williams
Registration No. 48,036

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: August 7, 2003

Attachments:

Replacement Figures 1-13 (13 Sheets Total)